AMENDMENTS TO THE DRAWINGS:

The attached sheets of drawings correct the objections to Figures 1, 2 and 3 as noted in the non-Final Office Action.

REMARKS

Claims 1-22 are pending in this application. Claims 2 and 13 have been canceled. Claims 1, 3-6, 12, and 14-17 have been amended. The specification has been amended in accordance with the Examiner's suggestions. The drawings have been amended in accordance with the Examiner's suggestions and replacement sheets are attached.

Claims 1, 2, 8, 12, 13 and 19 were rejected under 35 USC §102(b) as being anticipated by Kasson (U.S. Patent No. 5,450,216). Claims 2-7 and 13-18 were rejected under 35 USC §103(a) as being unpatentable over Kasson (U.S. Patent No. 5,450,216) in view of Eschbach (U.S. Patent No. 6,342,951). Claims 9 and 20 were rejected under 35 USC §103(a) as being unpatentable over Kasson (U.S. Patent No. 5,450,216) in view of Gruzdev (U.S. Patent No. 6,868,179). Claims 10 and 21 were rejected under 35 USC §103(a) as being unpatentable over Kasson (U.S. Patent No. 5,450,216) in view of Moroney (U.S. Publication No. 2002/0186387). Claims 11 and 22 were rejected under 35 USC §103(a) as being unpatentable over Kasson (U.S. Patent No. 5,450,216) in view of Eschbach (U.S. Patent No. 6,342,951). Applicant respectfully disagrees.

Independent Claim 1, as amended, claims a gamut mapping system, comprising: an image processing module for transforming an input image into a luminance component L_{in} and chrominance components, C_1 and C_2; a spatial low pass filter, responsive to L_{in} for outputting a filtered luminance component L_f, wherein L_f is a function of L_{in}; and a luminance compression module responsive to L_f and L_{in} for outputting a compressed luminance signal L_{out} that is within an achievable luminance range of an output device; wherein the luminance compression module combines two compression functions $L_{comp1}(L_{in})$ and $L_{comp2}(L_{in})$ via a blending function $\alpha(L_f)$ and wherein $L_{comp1}(L_{in})$, $L_{comp2}(L_{in})$ and $\alpha(L_f)$ are all functions of L_{in}.

Nothing in Kasson teaches or suggests Applicant's method or system. Applicant's blending equation (with W replacing $\alpha(L_f)$ for discussion purposes only) is:

$$L_{out} = W * f_1(L_{in}) + (1-W) * f_2(L_{in}),$$

where both f_1 and f_2 are compression functions of input luminance L_{in}, and W ($\alpha(L_f)$) is a function of a low-pass filtered version of L_{in}, with all variables being only functions of the input luminance image L_{in}.

Kasson's blending equation takes on a similar form (see col. 11, line 35):

$L_D = L_I - (L'_I - L'_{CM})\, W,$

but the terms are different. L_I is a filtered version of what Kasson refers to as "chroma-maximized luminance signal", which is a function of input luminance and chrominance. Also weight W is a function of a low-pass filtered version of a gamut error image, which also depends on both input luminance and chrominance. "Most pixels that fall outside of the output display gamut ("out-gamut") are mapped into the gamut using a combination of spatial filtering and non-linear compression embodied as weighted compensation of both luminance and chrominance image components." See col. 4, lines 32-37 of Kasson.

While both Applicant and Kasson blend two functions with a weight W, the distinctions are the functions being blended and the weight being used. Applicant's method blends two compression functions - whereas Kasson's functions are not compression functions. The two functions blended in Applicant's method depend only on input image luminance, whereas one of the two terms Kasson is blending depends on both input luminance and chrominance. Applicant's blending weight W ($\alpha(L_f)$) is derived based on only the input image luminance. Kasson's weight is derived from an error signal between input and gamut-mapped images, which requires knowledge of input luminance and chrominance. Indeed the motivation for the two approaches is quite different. Applicant's method trades off luminance shadow detail vs. overall image luminance contrast. Kasson's method trades off what the human visual system can perceive in luminance vs. chrominance at different spatial frequencies.

Nothing in Eschbach or Moroney or Gruzdev overcomes the lack of teachings in Kasson.

No additional fee is believed to be required for this amendment; however, the undersigned Xerox Corporation attorney hereby authorizes the charging of any necessary fees, other than the issue fee, to Xerox Corporation Deposit Account No. 24-0025.

Reconsideration of this application and allowance thereof are earnestly solicited. In the event the Examiner considers a personal contact advantageous to the disposition of this case, the Examiner is requested to call the undersigned Attorney for Applicant, Jeannette Walder.

Respectfully submitted,

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Xerox Corporation
Santa Ana, California
Date: December 13, 2007